STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING
SUITE 700, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-0791

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

TO: Will Reid
Assistant Chief Engineer of Operations

FROM: Brad Freeze, Director of Traffic Operations

SUBJECT: **Proprietary Item Request and Justification**
City of Jackson

1) **Traffic Signal Master Controllers, Local Controllers, and Malfunction Management Units (MMU)**
2) **Traffic Signal Detection Equipment**
3) **Traffic Signal Emergency Vehicle Preemption Equipment**

1) **Traffic Signal Master Controllers, Local Controllers, and Malfunction Management Units (MMU):** The City of Jackson is requesting that Siemens/Eagle MARC master controllers, Siemens/Eagle EPAC local controllers, and EDI Malfunction Management Units (MMU) be used in all signalization projects within the City over the next three years where Federal and/or State funding are used. The local controller equipment includes the Siemens EPAC M62 ATC and the MMU equipment includes the EDI MMU2-16LE(ip). The following are justification items for these requests:

The City of Jackson currently operates and maintains Siemens/Eagle local controllers and EDI MMUs at all 112 signalized intersections within the City's jurisdiction. The MARC master controller is required to synchronize with the local controllers within the City's traffic signal systems. Even though there are varying models of the Siemens/Eagles models within the City of Jackson, the current M62 ATC model has been the City standard since 2015. As traffic signals are installed, the City of Jackson is planning to incorporate the controllers into their Siemens TACTICS central traffic management system. To realize full benefit of the central system capabilities will require EPAC controllers.

The City of Jackson staff has been extensively trained to install, operate, maintain, program, and troubleshoot Siemens/Eagle controllers. This allows our technicians to quickly diagnose problems with field units which reduces the time required to maintain the system overall and helps keep the system operational during heavy traffic times to insure maximum capacity of the synchronized system. Existing software systems for signal programming via laptop computers carried by maintenance technicians are written exclusively for use with Siemens/Eagle controllers. By utilizing the Siemens/Eagle controller as the standard for the City, there will be a cost savings in stocking replacement equipment which will result in faster and less costly repair.

2) **Traffic Signal Detection Equipment:** The City of Jackson is requesting that Iteris traffic signal video/radar detection equipment be used in all signalization projects within the City over the next three years where Federal and/or State funding are used. The video/radar detection equipment includes the Iteris RZ-4 Video Detection Cameras, the Iteris Vantage Edge2 Video Processor Units, and the Iteris Vantage Vector System (for applications requiring video/radar hybrid units). The following are justification items for this request:

The City of Jackson currently operates and maintains Iteris traffic signal video/radar detection at nine of the 11 signalized intersections within the City's jurisdiction where video detection is installed. The City staff has been extensively trained to install, operate, maintain, and troubleshoot the Iteris traffic signal video/radar detection system. This allows our technicians to quickly diagnose problems with field units which reduces the time required to maintain the system overall and helps keep the system operational during heavy traffic times to insure maximum capacity of the synchronized system. By utilizing Iteris traffic signal video/radar detection equipment as the standard for the City, there will be a cost savings in stocking replacement equipment and will result in faster and less costly repair.

3) **Traffic Signal Traffic Systems Emergency Vehicle Preemption Equipment:** The City of Jackson is requesting that Traffic Systems Sonem 2000 emergency vehicle siren activated preemption equipment be used in all signalization projects within the City over the next three years where Federal and/or State funding are used. The following are justification items for this request:

The City of Jackson currently operates and maintains Traffic Systems Sonem 2000 emergency vehicle siren activated preemption equipment at five signalized intersections within the City's jurisdiction and is the only type of emergency vehicle preemption system in use in the City of Jackson at this time. The City of Jackson evaluated several types of emergency vehicle preemption systems approximately 15 years ago and concluded that the Sonem 2000 system provided the most reliable performance. Activation of the system by emergency vehicle crews is dependent upon selection of the correct siren mode at the time that the vehicle is approaching the intersection. Emergency vehicle crews have been trained to use the siren mode required by the Sonem system when approaching intersections with preemption systems. The major advantage of the siren activated unit is that it requires no additional equipment to be installed on the emergency vehicles as they use the siren system that currently exists on the vehicle. By requiring only the use of the existing vehicle siren to activate the system, there is no additional cost to the stakeholder agencies utilizing the system.

The City of Jackson staff has been extensively trained to install, operate, maintain, and troubleshoot the Traffic Systems Sonem 2000 emergency vehicle siren activated preemption equipment. The City of Jackson has been extensively trained to install, operate, maintain, and troubleshoot this type of emergency vehicle siren activated preemption equipment. By utilizing the Traffic Systems Sonem 2000 emergency vehicle preemption equipment as the standard for the City, there will be a cost savings in stocking replacement equipment which will result in faster and less costly repair.

I, Will Reid, Assistant Chief of Operations of the Tennessee Department of Transportation, do hereby certify that in accordance with the requirements of 23 CFR 635.411(a) (2) that the patented or proprietary items listed above are essential for the synchronization of existing facilities.

Assistant Chief Engineer of Operations

6-15-17
Date

Jerry Gist, Mayor

Scott Chandler, City Engineer

June 2, 2017

Mr. Stephen K. Bryan, P.E., PTOE
Tenn Dept. of Transportation
Traffic Operations Division
James K. Polk Bldg., 12th Floor
505 Deaderick St.
Nashville, TN 37243

REFERENCE: Request for Traffic Signal Products Certification

Mr. Bryan,

The City of Jackson requests certification to specify use of the following proprietary traffic signal items on all federal- or state-funded projects within the city limits over the next three year period. These items are City of Jackson standards and are used exclusively on all locally funded projects within the City. Use of these items is necessary in order to synchronize and maintain coordination with existing signal systems and to ensure that the new equipment can be effectively maintained.

Item Description: Vehicle Detector (Video)
Item Number: 730-13.02 and others as applicable
Requested Proprietary Items:

- **Iteris RZ-4 Video Detection Cameras**
- **Iteris VantageEdge2 Video Processor Units**
- **Iteris Vantage Vector System (for applications requiring video/radar hybrid units)**

Justification:

1. The City of Jackson currently operates Iteris video detection systems at 9 of 11 intersections where video detection is used. The two non-Iteris systems were installed by TDOT on a previous project and will be replaced with Iteris systems when they reach the end of their life.
2. Maintenance personnel have been extensively trained on operation and maintenance of Iteris video detection systems.
3. The City of Jackson only stocks maintenance/repair supplies and equipment for Iteris video detection systems.

117 E. Main Street, Suite 206 Jackson, TN 38301 731-425-8220 Fax 731-425-8209

Item Description: Vehicle Detector (Siren Activated Priority Control)
Item Number: 730-13.07
Requested Proprietary Item: Traffic Systems Sonem 2000
Justification:

1. The City of Jackson evaluated several emergency vehicle preemption systems approximately 15 years ago and concluded that the Sonem 2000 system provided the most reliable performance.
2. The Sonem 2000 system is the only emergency vehicle preemption system in use in the City of Jackson at this time. It is currently utilized at five intersections.
3. Activation of siren-activated preemption systems by emergency vehicle crews is dependent upon selection of the correct siren mode at the time that the vehicle is approaching the intersection. Emergency vehicle crews have been trained to use the siren mode required by the Sonem system when approaching intersections with preemption systems.

Item Description: Signal Conflict Monitor (Malfunction Management Unit)
Item Number: component of 730-15.32 (Cabinet)
Requested Proprietary Item: EDI MMU2-16LE(ip)
Justification:

1. EDI signal conflict monitors have been City of Jackson standard since 1994. All 112 signal installations within the City of Jackson utilize EDI monitors of varying models.
2. Maintenance personnel are trained exclusively on this type of monitor.
3. The City of Jackson only stocks maintenance/repair supplies and equipment for EDI conflict monitors.

Item Description: Eight Phase Actuated Controller
Item Number: 730-16.02
Requested Proprietary Item: Siemens EPAC M62 ATC
Justification:

1. Siemens/Eagle EPAC signal controllers have been City of Jackson standard since 1994. All 112 signal installations within the City of Jackson utilize EPAC controllers of varying models. The current M62 model has been the City standard for all new signal equipment purchases/installations since 2015.
2. Maintenance personnel are trained exclusively on this type of controller.
3. New/replacement signal installations will be integrated into existing closed-loop signal systems which are based on Siemens/Eagle EPAC controllers.
4. The City of Jackson is planning to eventually incorporate all signal installations in the City into their Siemens TACTICS central traffic management system. To realize full benefit of the central system capabilities will require EPAC controllers.
5. Existing software systems for signal programming via laptop computers carried by maintenance technicians are written exclusively for use with Siemens/Eagle controllers.

Item Description: Master Controller
Item Number: 730-18.01
Requested Proprietary Item: Siemens MARC Master
Justification:

1. Siemens/Eagle MARC Masters have been City of Jackson standard since 1994. All seven closed-loop signal systems within the City of Jackson utilize MARC Masters of varying models.
2. Maintenance personnel are trained exclusively on Siemens MARC Masters.
3. System masters will be integrated into existing signal systems which are based on Siemens/Eagle EPAC controllers, requiring a MARC master controller for compatibility.

Thank you for your consideration of this request. If you have any questions or need any additional information, please let me know.

Sincerely,

City of Jackson, TN

Scott Chandler, P.E.
Director of Engineering